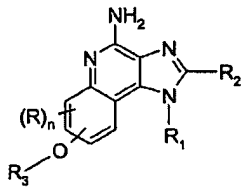
AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1.-14. (Canceled)

15. (Currently amended) A compound of the formula (II):



II

wherein:

R_3 is selected from the group consisting of:

-Z-Ar,

-Z-Ar'-Y-R_4,

-Z-Ar'-X-Y-R_4,

-Z-, Ar'-R_5, and

-Z-Ar'-X-R_5;

Z is selected from the group consisting of a bond, alkylene, alkenylene, and alkynylene wherein alkylene, alkenylene, and alkynylene are optionally interrupted with -O- ;

Ar is selected from the group consisting of aryl and heteroaryl both of which can be unsubstituted or can be substituted by one or more substituents independently selected from the group consisting of alkyl, alkenyl, alkoxy, methylenedioxy, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, hydroxyalkyl, mercapto, cyano, carboxy, formyl, aryl, aryloxy, arylalkyleneoxy, heteroaryl, heteroaryloxy, heteroarylalkyleneoxy, heterocyclyl, heterocyclylalkylenyl, amino, alkylamino, and dialkylamino;

Ar' is selected from the group consisting of arylene and heteroarylene both of which can be unsubstituted or can be substituted by one or more substituents independently selected from the group consisting of alkyl, alkenyl, alkoxy, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, hydroxyalkyl, mercapto, cyano, carboxy, formyl, aryl, aryloxy, arylalkyleneoxy, heteroaryl, heteroaryloxy, heteroarylalkyleneoxy, heterocyclyl, heterocyclylalkylenyl, amino, alkylamino, and dialkylamino ;

R is selected from the group consisting of alkyl, alkoxy, hydroxy, halogen, and trifluoromethyl;

n is 0 or 1;

R_1 is selected from the group consisting of:

$-R_4$,

$-X-R_4$,

$-X-Y-R_4$,

$-X-Y-X-Y-R_4$, and

$-X-R_5$

R_2 is selected from the group consisting of:

$-R_4$,

$-X-R_4$,

$-X-Y-R_4$, and

$-X-R_5$;

each X is independently selected from the group consisting of alkylene, alkenylene, alkynylene, arylene, heteroarylene, and heterocyclylene wherein the alkylene, alkenylene, and alkynylene groups can be optionally interrupted by arylene, heteroarylene or heterocyclylene or by one or more-O-groups;

each Y is independently selected from the group consisting of:

$-S(O)_{0-2}-$,

$-S(O)_2-N(R_8)-$,

$-C(R_6)-$,

$-C(R_6)-O-$,

-O-C(R_6)-,

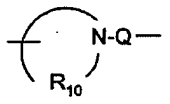
-O-C(O)-O-,

-N(R_8)-Q-,

-C(R_6)-N(R_8)-,

-O-C(R_6)-N(R_8)-,

-(R_6)-N(OR_9)-,



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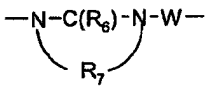

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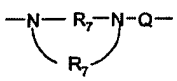

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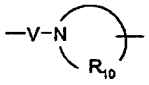

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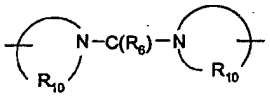
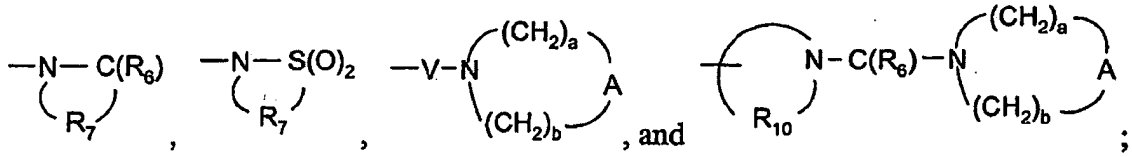


;

each R_4 is independently selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl groups can be unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, mercapto, cyano, aryl, aryloxy, arylalkyleneoxy, heteroaryl, heteroaryloxy, heteroarylalkyleneoxy, heterocyclyl, amino, alkylamino, dialkylamino, (dialkylamino)alkyleneoxy, and in the case of alkyl, alkenyl, alkynyl, and heterocyclyl, oxo;

each R_5 is independently selected from the group consisting of:



each R_6 is independently selected from the group consisting of =O and =S;

each R_7 is independently C_{2-7} alkylene;

each R_8 is independently selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and arylalkylenyl;

each R_9 is independently selected from the group consisting of hydrogen and alkyl;

each R_{10} is independently C_{3-8} alkylene;

each A is independently selected from the group consisting of -O-,-C (O)-, -$S(O)_{0-2}$-, -CH_2-, and-$N(R_4)$-;

each Q is independently selected from the group consisting of a bond, -$C(R_6)$-, -$C(R_6)$-$C(R_6)$-, -$S(O)_2$-, -$C(R_6)$-$N(R_8)$-W-, -$S(O)_2$-$N(R_8)$-, -$C(R_6)$-O-, and -$C(R_6)$-$N(OR_9)$-;

each V is independently selected from the group consisting of -$C(R_6)$-, -O-$C(R_6)$-, -$N(R_8)$-C (R_6)-, and-$S(O)_2$-;

each W is independently selected from the group consisting of a bond, -C(O)-, and -$S(O)_2$-; and

a and b are independently integers from 1 to 6 with the proviso that a + b is ≤ 7; or a pharmaceutically acceptable salt thereof.

16. (Previously presented) The compound or salt of claim 15 wherein n is 0.

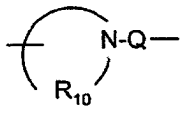
17. (Previously presented) The compound or salt of claim 15 wherein R_3 is selected from the group consisting of -Z-Ar, -Z-Ar'-X-Y-R_4, and -Z-Ar'-Y-R_4.

18. (Previously presented) The compound or salt of claim 17 wherein X is C_{1-2} alkylene; Y is -NH-$S(O)_2$-, -$S(O)_2$-, -C(O)-, or -C(O)O-; and R_4 is C_{1-4}alkyl or phenyl.

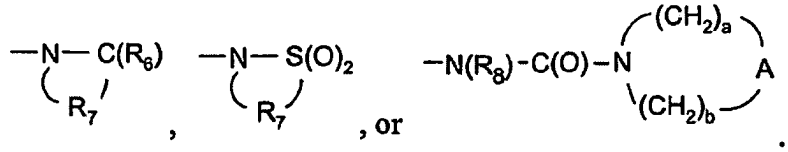
19. (Previously presented) The compound or salt of claim 18 wherein Z is a bond, alkylene, or alkylene interrupted by -O-.

20. (Previously presented) The compound or salt of claim 19 wherein Z is C_{1-3} alkylene.

21. (Previously presented) The compound or salt of claim 19 wherein Z is a bond.

22. (Previously presented) The compound or salt of claim 15 wherein R_1 is selected from the group consisting of alkyl, arylalkylenyl, aryloxyalkylenyl, hydroxyalkyl, dihydroxyalkyl, alkylsulfonylalkylenyl, heterocyclylalkylenyl wherein heterocyclyl is optionally substituted by one or more alkyl groups, -X-Y-R_4, and-X-R_5; wherein X is alkylene, Y is -N(R_8)-C(O)-, -N(R_8)-S(O)$_2$-, -N(R_8)-C(R_6)-N (R_8)-, or 

; R_4 is alkyl, aryl, arylalkylenyl, or heteroaryl, each of which is optionally substituted by one or more substituents selected from the group consisting of alkyl, alkoxy, halogen, or dialkylamino; and R_5 is



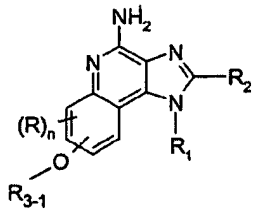
23. (Previously presented) The compound or salt of claim 22 wherein R_1 is selected from the group consisting of 2-hydroxy-2-methylpropyl, 2-methylpropyl, propyl, 2,3-dihydroxypropyl, 4-[(methylsulfonyl) amino]butyl, 2-methyl-2-[(methylsulfonyl)amino]propyl, 2-[(cyclohexylcarbonyl)amino]-2-methylpropyl, 4-(1,1-dioxidoisothiazolidin-2-yl)butyl, tetrahydro-2*H*-pyran-4-yhnethyl, and (2,2-dimethyl-1,3-dioxolan-4-yl)methyl.

24. (Previously presented) The compound or salt of claim 15 wherein R_2 is selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and -X-N(R_8)-C(R_6)-N(R_8)-R_4 wherein X is C_{1-4}alkylene, and R_4 is C_{1-4}alkyl.

25. (Previously presented) The compound or salt of claim 24 wherein R_2 is selected from the group consisting of hydrogen, methyl, ethyl, propyl, butyl, ethoxymethyl, methoxymethyl, 2-methoxyethyl, and methylaminocarbonylaminomethyl.

26. (Previously presented) The compound or salt of claim 25 wherein R_2 is selected from the group consisting of ethyl, propyl, 2-methoxyethyl, ethoxymethyl, and methoxymethyl.

27. (Currently amended) A compound of the formula III:



III

wherein:

$R_{3\text{-}1}$ is-Z-Ar;

Z is selected from the group consisting of a bond, alkylene, alkenylene, and alkynylene wherein alkylene, alkenylene, and alkynylene are optionally interrupted with -O-;

Ar is selected from the group consisting of aryl and heteroaryl both of which can be unsubstituted or can be substituted by one or more substituents independently selected from the group consisting of alkyl, alkenyl, alkoxy, methylenedioxy, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, hydroxyalkyl, mercapto, cyano, carboxy, formyl, aryl, aryloxy, arylalkyleneoxy, heteroaryl, heteroaryloxy, heteroarylalkyleneoxy, heterocyclyl, heterocyclylalkylenyl, amino, alkylamino, and dialkylamino;

R is selected from the group consisting of alkyl, alkoxy, hydroxy, halogen, and trifluoromethyl;

n is 0 or 1;

R_1 is selected from the group consisting of:

$-R_4$,

$-X-R_4$,

-X-Y-R_4,

-X-Y-X-Y-R_4, and

-X-R_5;

R_2 is selected from the group consisting of:

-R_4,

-X-R_4,

-X-Y-R_4, and

-X-R_5;

each X is independently selected from the group consisting of alkylene, alkenylene, alkynylene, arylene, heteroarylene, and heterocyclylene wherein the alkylene, alkenylene, and alkynylene groups can be optionally interrupted by arylene, heteroarylene or heterocyclylene or by one or more -O- groups;

each Y is independently selected from the group consisting of:

-$S(O)_{0-2}$-,

-$S(O)_2$-$N(R_8)$-,

-$C(R_6)$-,

-$C(R_6)$-O-,

-O-$C(R_6)$-

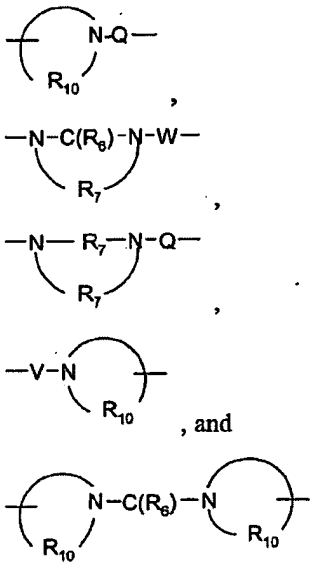
-O-C(O)-O-,

-$N(R_8)$-Q-,

-$C(R_6)$-$N(R_8)$-,

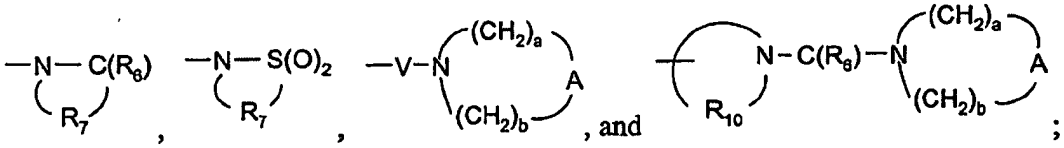
-O-$C(R_6)$-$N(R_8)$-,

-$C(R_6)$-$N(OR_9)$-,



each R_4 is independently selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl groups can be unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, mercapto, cyano, aryl, aryloxy, arylalkyleneoxy, heteroaryl, heteroaryloxy, heteroarylalkyleneoxy, heterocyclyl, amino, alkylamino, dialkylamino, (dialkylamino)alkyleneoxy, and in the case of alkyl, alkenyl, alkynyl, and heterocyclyl, oxo;

each R_5 is independently selected from the group consisting of:



each R_6 is independently selected from the group consisting of =O and =S;

each R_7 is independently C_{2-7}alkylene;

each R_8 is independently selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and arylalkylenyl;

each R_9 is independently selected from the group consisting of hydrogen and alkyl;

each R_{10} is independently C_{3-8} alkylene;

each A is independently selected from the group consisting of -O-, -C(O)-, $-S(O)_{0-2}-$, $-CH_2-$, and $-N(R_4)-$;

each Q is independently selected from the group consisting of a bond, $-C(R_6)-$, $-C(R_6)-C(R_6)-$, $-S(O)_2-$, $-C(R_6)-N(R_8)-W-$, $-S(O)_2-N(R_8)-$, $-C(R_6)-O-$, and $-C(R_6)-N(OR_9)-$;

each V is independently selected from the group consisting of $-C(R_6)-$, $-O-C(R_6)-$, $-N(R_8)-C(R_6)-$, and $-S(O)_2-$;

each W is independently selected from the group consisting of a bond, -C(O)-, and $-(O)_2-$; and

a and b are independently integers from 1 to 6 with the proviso that a + b is ≤ 7;

or a pharmaceutically acceptable salt thereof.

28. (Previously presented) The compound or salt of claim 27 wherein n is 0.

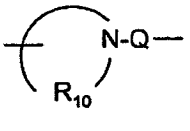
29. (Previously presented) The compound or salt of claim 27 wherein Ar is phenyl or heteroaryl which is unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, nitro, cyano, carboxy, halogen, hydroxyalkyl, amino, alkylamino, dialkylamino, trifluoromethyl, trifluoromethoxy, and thienyl.

30. (Previously presented) The compound or salt of claim 29 wherein heteroaryl is selected from the group consisting of benzothiazolyl, furanyl, imidazolyl, indolyl, isoxazolyl, oxadiazolyl, pyrazinyl, pyridinyl, pyrrolyl, thiazolyl, and thienyl.

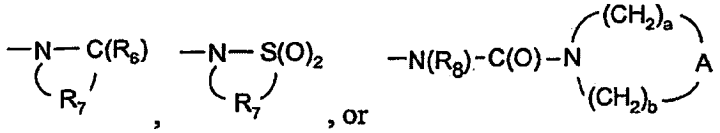
31. (Previously presented) The compound or salt of claim 27 wherein Z is a bond, alkylene, or alkylene interrupted by -O-.

32. (Previously presented) The compound or salt of claim 31 wherein Z is C_{1-3} alkylene.

33. (Previously presented) The compound or salt of claim 31 wherein Z is a bond.

34. (Previously presented) The compound or salt of claim 27 wherein R_1 is selected from the group consisting of alkyl, arylalkylenyl, aryloxyalkylenyl, hydroxyalkyl, dihydroxyalkyl, alkylsulfonylalkylenyl, heterocyclylalkylenyl wherein heterocyclyl is optionally substituted by one or more alkyl groups, -X-Y-R_4, and-X-R_5; wherein X is alkylene, Y is -N (R_8)-C(O)-, -N(R_8)-S(O)$_2$-, -N(R_8)-C(R_6)-N(R_8)-, or 

; R_4 is alkyl, aryl, arylalkylenyl, or heteroaryl, each of which is optionally substituted by one or more substituents selected from the group consisting of alkyl, alkoxy, halogen, or dialkylamino; and R_5 is



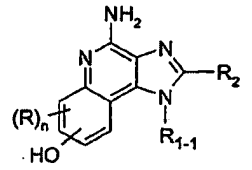
35. (Previously presented) The compound or salt of claim 34 wherein R_1 is selected from the group consisting of 2-hydroxy-2-methylpropyl, 2-methylpropyl, propyl, 2,3-dihydroxypropyl, 4-[(methylsulfonyl) amino]butyl, 2-methyl-2-[(methylsulfonyl)amino]propyl, 2-[(cyclohexylcarbonyl)amino]-2-methylpropyl, 4-(1,1-dioxidoisothiazolidin-2-yl)butyl, tetrahydro-2*H*-pyran-4-ylmethyl, and (2, 2-dimethyl-1,3-dioxolan-4-yl)methyl.

36. (Previously presented) The compound or salt of claim 27 wherein R_2 is selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and -X-N(R_8)-C(R_6)-N(R_8)-R_4 wherein X is C_{1-4} alkylene, and R_4 is C_{1-4} alkyl.

37. (Previously presented) The compound or salt of claim 36 wherein R_2 is selected from the group consisting of hydrogen, methyl, ethyl, propyl, butyl, ethoxymethyl, methoxymethyl, 2-methoxyethyl, and methylaminocarbonylaminomethyl.

38. (Previously presented) The compound or salt of claim 37 wherein R_2 is selected from the group consisting of ethyl, propyl, 2-methoxyethyl, ethoxymethyl, and methoxymethyl.

39. (Currently amended) A compound of the formula (VII):



VII

wherein:

R is selected from the group consisting of alkyl, alkoxy, hydroxy, halogen, and trifluoromethyl;

n is 0 or 1;

R_{1-1} is selected from the group consisting of:

$-R_{4-1}$,

$-X'-R_{4-1}$,

$-X'-Y'-R_4$,

$-X'-Y'-X-Y-R_4$, and

$-X'-R_5$;

R_2 is selected from the group consisting of:

$-R_4$,

$-X-R_4$,

$-X-Y-R_4$, and

$-X-R_5$;

each X is independently selected from the group consisting of alkylene, alkenylene, alkynylene, arylene, heteroarylene, and heterocyclylene wherein the alkylene, alkenylene, and alkynylene groups can be optionally interrupted by arylene, heteroarylene or heterocyclylene or by one or more -O-groups;

X' is selected from the group consisting of alkylene, alkenylene, alkynylene, arylene, heteroarylene, and heterocyclylene wherein the alkylene, alkenylene, and alkynylene groups can be optionally interrupted by an arylene, heteroarylene or heterocyclylene group;

each Y is independently selected from the group consisting of:

$-S(O)_{0-2}-$,

$-S(O)_2-N(R_8)-$,

$-C(R_6)-$,

$-C(R_6)-O-$,

$-O-C(R_6)-$,

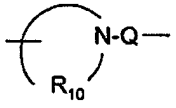
$-O-C(O)-O-$,

$-N(R_8)-Q-$,

$-C(R_6)-N(R_8)-$,

$-O-C(R_6)-N(R_8)-$,

$-C(R_6)-N(OR_9)-$,



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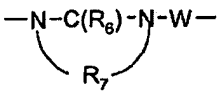

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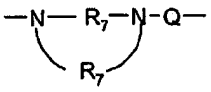

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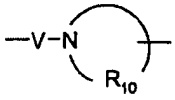

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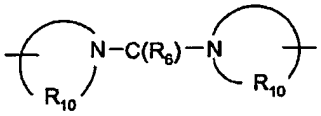


;

Y is selected from the group consisting of:

$-S(O)_2-N(R_8)-$,

$-C(R_6)-$,

$-C(R_6)-O-$,

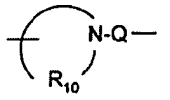
$-O-C-(O)-O-$,

$-N(R_8)-Q-$,

$-C(R_6)-N(R_8)-$,

$-O-C(R_6)-N(R_8)-$,

$-C(R_6)-N(OR_9)-$,



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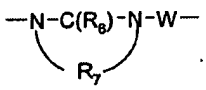

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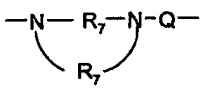

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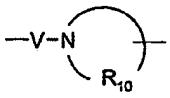

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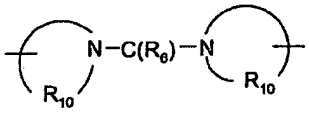


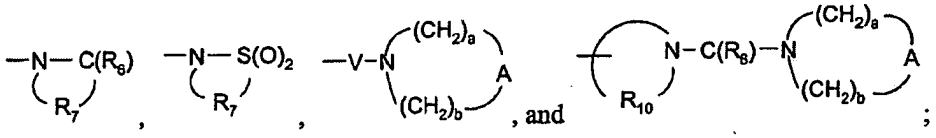
;

each R_4 is independently selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl groups can be unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, mercapto, cyano, aryl, aryloxy, arylalkyleneoxy, heteroaryl, heteroaryloxy, heteroarylalkyleneoxy, heterocyclyl, amino, alkylamino, dialkylamino, (dialkylamino)alkyleneoxy, and in the case of alkyl, alkenyl, alkynyl, and heterocyclyl, oxo;

R_{4-1} is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, alkylheteroarylenyl, and heterocyclyl wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, alkylheteroarylenyl, and heterocyclyl groups can be unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, mercapto, cyano, aryl, heteroaryl,

heterocyclyl, amino, alkylamino, dialkylamino, (dialkylamino)alkyleneoxy, and in the case of alkyl, alkenyl, alkynyl, and heterocyclyl, oxo;

each R_5 is independently selected from the group consisting of:



each R_6 is independently selected from the group consisting of =O and =S;

each R_7 is independently C_{2-7} alkylene;

each R_8 is independently selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and arylalkylenyl;

each R_9 is independently selected from the group consisting of hydrogen and alkyl;

each R_{10} is independently C_{3-8} alkylene;

each A is independently selected from the group consisting of-O-, -C(O)-, -$S(O)_{0-2}$-, -CH_2-, and -$N(R_4)$-;

each Q is independently selected from the group consisting of a bond,

-$C(R_6)$-,

-$C(R_6)$-$C(R_6)$-,

-$S(O)_2$-,

-$C(R_6)$-$N(R_8)$-W-,

-$S(O)_2$-$N(R_8)$-,

-$C(R_6)$-O-, and

-(R_6)-$N(OR_9)$-;

each V is independently selected from the group consisting of

-$C(R_6)$-,

-O-$C(R_6)$-,

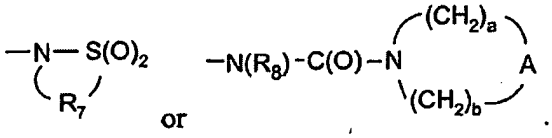
-$N(R_8)$-$C(R_6)$-, and

-$S(O)_2$-;

each W is independently selected from the group consisting of a bond, -C(O)-, and -$S(O)_2$-; and

a and b are independently integers from 1 to 6 with the proviso that a + b is ≤ 7;
or a pharmaceutically acceptable salt thereof; with the proviso that when R_{1-1} is hydrogen or 2-methylpropyl, R_2 is other than hydrogen, and with the further proviso that when R_{1-1} is 2-methylpropenyl or 2-hydroxy-2-methylpropyl, R_2 is other than methyl, ethoxymethyl, and hydroxymethyl.

40. (Previously presented) The compound or salt of claim 39 wherein R_{1-1} is selected from the group consisting of alkyl, arylalkylenyl, hydroxyalkyl, dihydroxyalkyl, heterocyclylalkylenyl wherein heterocyclyl is optionally substituted by one or more alkyl groups, -X'-Y'-R_4, and -X'-R_5; wherein X' is alkylene; Y' is -N (R_8)-Q-, and Q is selected from the group consisting of -C(R_6)-,-S(O)$_2$-, and-C(R_6)-N(R_8)-W-; R_4 is alkyl, aryl, arylalkylenyl, or heteroaryl, each of which is optionally substituted by one or more substituents selected from the group consisting of alkyl, alkoxy, halogen, or dialkylamino; and R_5 is



41. (Previously presented) The compound or salt of claim 40 wherein R_{1-1} is selected from the group consisting of 2-hydroxy-2-methylpropyl, 2-methylpropyl, propyl, 2,3-dihydroxypropyl, 4-[(methylsulfonyl)amino]butyl, 2-methyl-2-[(methylsulfonyl)amino]propyl, 2-[(cyclohexylcarbonyl)amino]-2-methylpropyl, 4-(1, 1-dioxidoisothiazolidin-2-yl)butyl, tetrahydro-2*H*-pyran-4-ylmethyl, and (2,2-dimethyl-1, 3-dioxolan-4-yl)methyl.

42. (Previously presented) The compound or salt of claim 39 wherein n is 0.

43. (Previously presented) The compound or salt of claim 39 wherein R_2 is selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and -X-N(R_8)-C(R_6)-N(R_8)-R_4 wherein X is C_{1-4} alkylene, and R_4 is C_{1-4} alkyl.

44. (Previously presented) The compound or salt of claim 43 wherein R_2 is selected from the group consisting of hydrogen, methyl, ethyl, propyl, butyl, ethoxymethyl, methoxymethyl, 2-methoxyethyl, and methylaminocarbonylaminomethyl.

45. (Previously presented) The compound or salt of claim 44 wherein R_2 is selected from the group consisting of ethyl, propyl, ethoxymethyl, 2-methoxyethyl, and methoxymethyl.

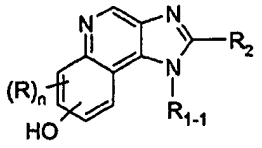
46. (Previously presented) A pharmaceutical composition comprising a therapeutically effective amount of a compound or salt of claim 15 in combination with a pharmaceutically acceptable carrier.

47. (Currently amended) A method of inducing ~~cytokine~~ biosynthesis of tumor necrosis factor-alpha or interferon-alpha in an animal comprising administering an effective amount of a compound or salt of claim 15 to the animal.

48. (Canceled)

49. (Canceled)

50. (Currently amended) A compound of the formula (IX):



IX

wherein:

R is selected from the group consisting of alkyl, alkoxy, hydroxy, halogen, and trifluoromethyl;

n is 0 or 1;

R_{1-1} is selected from the group consisting of:

$-R_{4-1}$,

$-X'-R_{4-1}$,

$-X'-Y'-R_4$

$-X'-Y'-X-Y-R_4$, and

$-X'-R_5\ X'-R_5$;

R_2 is selected from the group consisting of:

$-R_4$,

$-X-Y-R_4$, and

$-X-R_5$;

each X is independently selected from the group consisting of alkylene, alkenylene, alkynylene, arylene, heteroarylene, and heterocyclylene wherein the alkylene, alkenylene, and alkynylene groups can be optionally interrupted by arylene, heteroarylene or heterocyclylene or by one or more -O- groups;

X' is selected from the group consisting of alkylene, alkenylene, alkynylene, arylene, heteroarylene, and heterocyclylene wherein the alkylene, alkenylene, and alkynylene groups can be optionally interrupted by an arylene, heteroarylene or heterocyclylene group;

each Y is independently selected from the group consisting of:

$-S(O)_{0-2}-$, - S(O)2-N(R_8)-,

$-C(R_6)-$,

$-C(R_6)-O-$,

$-O-C(R_6)-$,

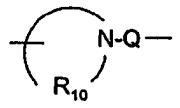
-O-C(O)-O-,

$-N(R_8)-Q-$,

$-C(R_6)-N(R_8)-$,

$-O-C(R_6)-N(R_8)-$,

-C (R6)-N(OR9)-,



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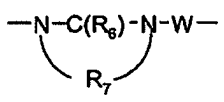

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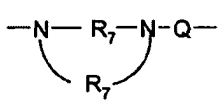

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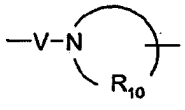
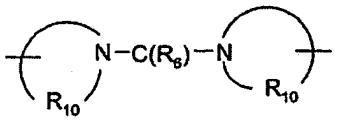


, and



;

Y 'is selected from the group consisting of:

-S(O)2-N(R8)-,

-C(R6)-,

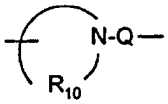
-C(R6)-O-,

-N (R8)-Q-,

-C (R6)-N(R8)-,

-O-C (R6)-N(R8)-,

-C (R6)-N(OR9)-,



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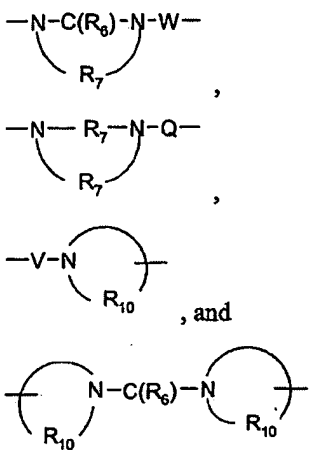
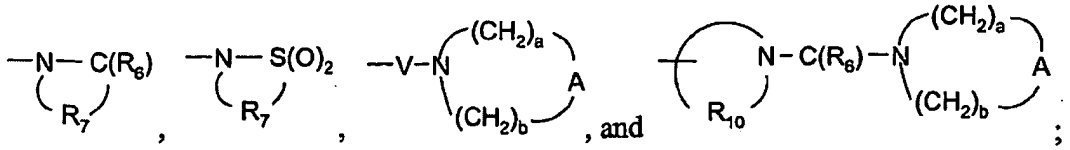


each R_4 is independently selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl groups can be unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, mercapto, cyano, aryl, aryloxy, arylalkyleneoxy, heteroaryl, heteroaryloxy, heteroarylalkyleneoxy, heterocyclyl, amino, alkylamino, dialkylamino, (dialkylamino) alkyleneoxy, and in the case of alkyl, alkenyl, alkynyl, and heterocyclyl, oxo;

$R_{4\text{-}1}$ is selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, alkylheteroarylenyl, and heterocyclyl wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, alkylheteroarylenyl, and heterocyclyl groups can be unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, mercapto, cyano, aryl, heteroaryl, heterocyclyl, amino, alkylamino, dialkylamino, (dialkylamino)alkyleneoxy, and in the case of alkyl, alkenyl, alkynyl, and heterocyclyl, oxo;

each R_5 is independently selected from the group consisting of:



each R_6 is independently selected from the group consisting of =O and =S;

each R_7 is independently C_{2-7} alkylene;

each R_8 is independently selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and arylalkylenyl;

each R_9 is independently selected from the group consisting of hydrogen and alkyl;

each R_{10} is independently C_{3-8} alkylene;

each A is independently selected from the group consisting of-O-,-C(O)-, $-S(O)_{0-2}$-,$-CH_2$-, and-$N(R_4)$-;

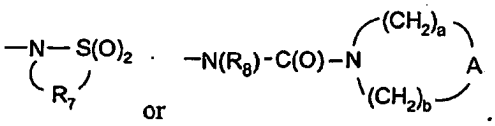
each Q is independently selected from the group consisting of a bond,$-C(R_6)$-, $-C(R_6)-C(R_6)$-, $-S(O)_2$-, $-C(R_6)-N(R_8)-W$-, $-S(O)_2-N(R_8)$-, $-C(R_6)-O$-, and $-C(R_6)-N(OR_9)$-;

each V is independently selected from the group consisting of-$C(R_6)$-, - (R_6)-,-N (R_8)-C (R_6)-, and-$S(O)_2$-;

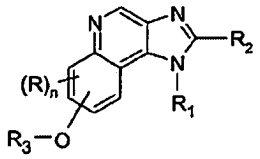
each W is independently selected from the group consisting of a bond,-C(O)-, and $-S(O)_2$-; and

a and b are independently integers from 1 to 6 with the proviso that a + b is ≤ 7; or a pharmaceutically acceptable salt thereof.

51. (Previously presented) The compound or salt of claim 50 wherein R_{1-1} is selected from the group consisting of alkyl, arylalkylenyl, hydroxyalkyl, dihydroxyalkyl, heterocyclylalkylenyl wherein heterocyclyl is optionally substituted by one or more alkyl groups, -X'-Y'-R_4, and -X'-R_5; wherein X'is alkylene; Y'is-N (R_8)-Q-; and Q is selected from the group consisting of-$C(R_6)$-,$-S(O)_2$-, and-$C(R_6)-N(R_8)-W$-; R_4 is alkyl, aryl, arylalkylenyl, or heteroaryl, each of which is optionally substituted by one or more substituents selected from the group consisting of alkyl, alkoxy, halogen, or dialkylamino; and R_5 is



52. (Currently amended) A compound of the formula (XI):



XI

wherein:

R_3 is selected from the group consisting of:

-Z-Ar,

-Z-Ar'-X-Y-R_4,

- Z-Ar'-R_5, and

-Z-Ar'-X-R_5;

Z is selected from the group consisting of a bond, alkylene, alkenylene, and alkynylene wherein alkylene, alkenylene, and alkynylene are optionally interrupted with -O-;

Ar is selected from the group consisting of aryl and heteroaryl both of which can be unsubstituted or can be substituted by one or more substituents independently selected from the group consisting of alkyl, alkenyl, alkoxy, methylenedioxy, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, hydroxyalkyl, mercapto, cyano, carboxy, formyl, aryl, aryloxy, arylalkyleneoxy, heteroaryl, heteroaryloxy, heteroarylalkyleneoxy, heterocyclyl, heterocyclylalkylenyl, amino, alkylamino, and dialkylamino;

Ar' is selected from the group consisting of arylene and heteroarylene both of which can be unsubstituted or can be substituted by one or more substituents independently selected from the group consisting of alkyl, alkenyl, alkoxy, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, hydroxyalkyl, mercapto, cyano, carboxy, formyl, aryl, aryloxy, arylalkyleneoxy, heteroaryl, heteroaryloxy, heteroarylalkyleneoxy, heterocyclyl, heterocyclylalkylenyl, amino, alkylamino, and dialkylamino;

R is selected from the group consisting of alkyl, alkoxy, hydroxy, halogen, and trifluoromethyl;

n is 0 or 1;

R_1 is selected from the group consisting of:

$-R_4$,

$-X-R_4$,

$-X-Y-R_4$,

$-X-Y-X-Y-R_4$, and

$-X-R_5$;

R_2 is selected from the group consisting of:

$-R_4$,

$-X-R_4$,

$-X-Y-R_4$, and

$-X-R_5$;

each X is independently selected from the group consisting of alkylene, alkenylene, alkynylene, arylene, heteroarylene, and heterocyclylene wherein the alkylene, alkenylene, and alkynylene groups can be optionally interrupted by arylene, heteroarylene or heterocyclylene or by one or more -O- groups;

each Y is independently selected from the group consisting of:

$-S(O)_{0-2}-$,

$-S(O)_2.N(R_8)-$,

$-C(R_6)-$,

$-C(R_6)-O-$,

$-O-C(R_6)-$,

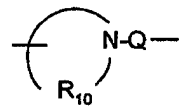
$-O-C(O)-O-$,

$-N(R_8)-Q-$,

$-C(R_6)-N(R_8)-$,

$-O-C(R_6)-N(R_8)-$,

$-C(R_6)-N(OR_9)-$,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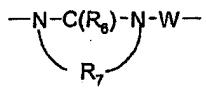
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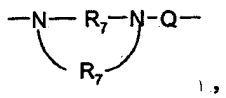
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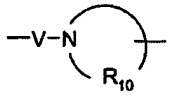
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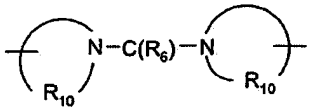
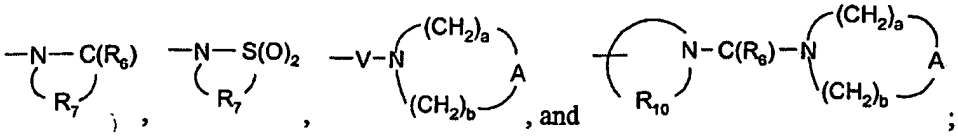

;

each R_4 is independently selected from the group consisting of hydrogen, alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl wherein the alkyl, alkenyl, alkynyl, aryl, arylalkylenyl, aryloxyalkylenyl, alkylarylenyl, heteroaryl, heteroarylalkylenyl, heteroaryloxyalkylenyl, alkylheteroarylenyl, and heterocyclyl groups can be unsubstituted or substituted by one or more substituents independently selected from the group consisting of alkyl, alkoxy, hydroxyalkyl, haloalkyl, haloalkoxy, halogen, nitro, hydroxy, mercapto, cyano, aryl, aryloxy, arylalkyleneoxy, heteroaryl, heteroaryloxy, heteroarylalkyleneoxy, heterocyclyl, amino, alkylamino, dialkylamino, (dialkylamino)alkyleneoxy, and in the case of alkyl, alkenyl, alkynyl, and heterocyclyl, oxo;

each R_5 is independently selected from the group consisting of :


;

each R_6 is independently selected from the group consisting of =O and =S;

each R_7 is independently C_{2-7} alkylene;

each R_8 is independently selected from the group consisting of hydrogen, alkyl, alkoxyalkylenyl, and arylalkylenyl;

each R_9 is independently selected from the group consisting of hydrogen and alkyl;

each R_{10} is independently C_{3-8} alkylene;

each A is independently selected from the group consisting of-O-,-C(O)-, $-S(O)_{0-2}-$,$-CH_2-$, and $-N(R_4)-$;

each Q is independently selected from the group consisting of a bond, $-C(R_6)-$, $-C(R_6)-C(R_6)-$, $-S(O)_2-$, $-C(R_6)-N(R_8)-W-$, $-S(O)_2-N(R_8)-$, $-C(R_6)-O-$, and $-C(R_6)-N(OR_9)-$;

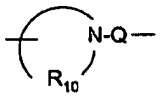
each V is independently selected from the group consisting of $-C(R_6)-$, $-O-C(R_6)-$, $-N(R_8)-C(R_6)-$, and $-S(O)_2-$;

each W is independently selected from the group consisting of a bond, -C(O)-, and $-S(O)_2-$; and

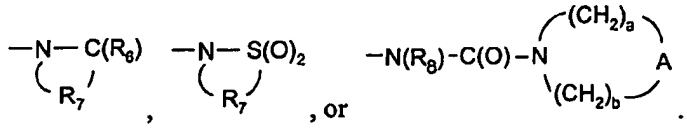
a and b are independently integers from 1 to 6 with the proviso that a + b is ≤ 7; or a pharmaceutically acceptable salt thereof.

53. (Previously presented) The compound or salt of claim 52 wherein R_3 is benzyl.

54. (Previously presented) The compound or salt of claim 52 wherein R_1 is selected from the group consisting of alkyl, arylalkylenyl, aryloxyalkylenyl, hydroxyalkyl, alkylsulfonylalkylenyl, heterocyclylalkylenyl wherein heterocyclyl is optionally substituted by one or more alkyl groups,-X-Y-R_4, and-X-R_5; wherein X is alkylene, Y is $-N(R_8)-C(O)-$,$-N(R_8)-S(O)_2-$,$-N(R_8)-C(O)-N(R_8)-$, or



; R_4 is alkyl, aryl, arylalkylenyl, or heteroaryl, each of which is optionally substituted by one or more substituents selected from the group consisting of alkyl, alkoxy, halogen, or dialkylamino; and R5 is



55. (Previously presented) A pharmaceutical composition comprising a therapeutically effective amount of a compound or salt of claim 27 in combination with a pharmaceutically acceptable carrier.

56. (Currently amended) A method of inducing ~~cytokine~~ biosynthesis of tumor necrosis factor-alpha or interferon-alpha in an animal comprising administering an effective amount of a compound or salt of claim 27 to the animal.

57.-58. (Canceled)

59. (Previously presented) A pharmaceutical composition comprising a therapeutically effective amount of a compound or salt of claim 39 in combination with a pharmaceutically acceptable carrier.

60. (Currently amended) A method of inducing ~~cytokine~~ biosynthesis of tumor necrosis factor-alpha or interferon-alpha in an animal comprising administering an effective amount of a compound or salt of claim 39 to the animal.

61.-62. (Canceled)

63. (New) The compound or salf of claim 15 of formula: